The 21st Century National Nanotechnology Research and Development Act

- Nanotechnology is one of the President's highest science and technology priorities.

- Nanotechnology represents the future of technology—in computers, medicine, defense systems, and energy production and distribution.
    - The estimated economic impact is significant: The NSF predicts a $1 trillion global market for nanotechnology in little over a decade.

- The Act authorizes the interagency National Nanotechnology Research and Development Program. The Act passed the House 405-19 and the Senate by unanimous consent and was signed into law on December 3, 2003.

- The Act aims to cement U.S. economic and technical leadership by assuring stable, long-term support for nanotechnology research.
    - The U.S. is the world leader in generating knowledge and performing creative interdisciplinary research. It is vital to maintain that edge and to facilitate the commercialization of nanotechnology applications.

- The Act protects taxpayers by adding oversight mechanisms—an interagency committee, annual reports to congress, an advisory committee, and external reviews—to assure funds are spent wisely.

- The Act increases the funding for colleges and universities throughout the country to expand their research programs in nanotechnology and to partner with companies to transfer their results to commercial products.
    - The Act authorizes $3.7 billion in funding at five agencies over four years.

- The Act emphasizes the need to perform research into the ethical, legal, environmental, and other appropriate societal concerns related to nanotechnology, to educate the public about nanotechnology, and to involve the public in the debate. Questions include: What will the impact of new products be on health and the environment? How will the workforce needs be met for new companies and factories based on nanotechnology?

- The Act was supported by the industrial and academic communities that will be responsible for our national innovations in nanotechnology. Endorsements were received from: National Association of Manufacturers, Semiconductor Industry Association, Association for Computing Machinery, Computing Research Association, Nanobusiness Alliance, Association of American Universities, National Association of State Universities and Land-Grant Colleges, Alliance for Science and Technology Research in America, Institute of Electronics and Electrical Engineers, IBM, Intel, and Hewlett-Packard.

Funding for the National Nanotechnology Research & Development Program

The National Nanotechnology Research and Development Program involves 10 federal agencies and continues to be a high priority of both the Administration and the Science Committee. Between FY 2001 and FY 2005, spending on federal nanotechnology R&D more than doubled, rising from $464 million in FY01 to $1.1 billion in FY05. The FY06 budget requests an estimated[1] $1.05 billion for the program in FY06, an decrease of $27 million, or 2.5 percent, over the estimated FY05 level. Requested funding for the five agencies[2] authorized in the *21st Century Nanotechnology Research and Development Act* (P.L. 108-153) is $666 million, and remains significantly below the $890 million authorized for these agencies for FY06 in the Act.

National Nanotechnology R&D Program

(Numbers in Millions)

	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Actual	FY05 Estim.	**FY06 Proposed**
NSF	150	204	221	256	338	**344**
Defense	125	224	322	291	257	**230**
Energy	88	89	134	202	210	**207**
NIST	33	77	64	77	75	**75**
NASA	22	35	36	47	45	**35**
NIH/NIOSH	40	59	78	108	145	**147**
EPA	5	6	5	5	5	**5**
DHS	0	2	1	1	1	**1**
USDA	0	0	0	2	3	**8**
DOJ	1	1	1	2	2	**2**
Total	464	697	862	991	1081	**1054**

[1] OMB and OSTP estimate agency funding levels for the National Nanotechnology R&D Program activities, but the data are not entirely consistent from year to year and there are discrepancies arising from the fact that some nanotechnology research may be difficult to identify or classify.

[2] The five agencies authorized in the act are: the National Science Foundation, the Department of Energy, the National Institute of Standards and Technology, the National Aeronautics and Space Administration, and the Environmental Protection Agency. The total funding authorized in the act for these agencies is $3.7 billion over four years.